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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WARE, CICELY Q

ART UNIT PAPER NUMBER

2634

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/081,868	AZIZI, SEYED ALI	
	Examiner	Art Unit	
	Cicely Ware	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 8 is/are allowed.
- 6) ☒ Claim(s) 1, 5, 6 and 9 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:
  - a. Pg. 11, line 20-21 and Pg. 12, line 4, applicant makes reference to "equalizer arrangement 700" in reference to figure 7. Examiner suggests applicant refer to elements as specified in the drawings and vice versa for clarification purposes. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Wong et al. (US Patent 5,841,810).

With regard to claim 9, Wong et al. discloses an equalizer that receives an input signal, comprising; a first equalizer, including a first equalizer section having a gain and that receives the input signal and provides a first equalizer output signal to a second equalizer section having a center frequency, where the second equalizer section provides a second equalizer output signal; and a second equalizer having a first correcting equalizer section that receives a signal indicative of the second equalizer

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output signal and provides a first correcting equalizer output signal to a second correcting equalizer section that provides a second correcting equalizer output signal, where the second correcting equalizer section includes a correction gain value that is indicative of the negative of the gain of the first equalizer section at the center frequency of the second equalizer section (col. 3, lines 20-67).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Examiner Official Notice in view of Wong et al. (US Patent 5,841,810).

(1) With regard to claim 1, Examiner takes Official Notice to the fact that it is well known in the art that a graphic equalizer is equalizer arrangement for generating an output signal by equalizing an input signal, comprising: at least two mutually interfering first equalizer sections; and at least two correcting second equalizer sections, where each of the second equalizer sections is uniquely associated with an associated one of the first equalizer sections which has the same center frequency, and each second equalizer sections has an equalization response which at least partially compensates for interference between the first equalizer sections.

However a graphic equalizer arrangement does not disclose where each of the second equalizer sections at its center frequency has a gain that is equal to the negative sum of the gain of at least one of the first equalizer sections adjacent to the first equalizer section associated with the second equalizer section.

However Wong et al. discloses wherein each of the second equalizer sections at its center frequency has a gain that is equal to the negative sum of the gain of at least one of the first equalizer sections adjacent to the first equalizer section associated with the second equalizer section (col. 3, lines 20-67).

Therefore it would have obvious to one of ordinary skill in the art to modify the graphic equalizer in view of Wong et al. to incorporate wherein each of the second equalizer sections at its center frequency has a gain that is equal to the negative sum of the gain of at least one of the first equalizer sections adjacent to the first equalizer section associated with the second equalizer section in order to provide successive amounts of equalization as needed for any length of cable (Wong et al., col. 1, lines 40-44).

6. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Examiner Official Notice in view of Wong et al. (US Patent 5,841,810) as applied to claim 1, in further view of Ballard et al. (US Patent 5,617,480).

(1) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Examiner Official Notice in combination with Wong et al. disclose all the limitations of claim 1.

However Examiner Official Notice in combination with Wong et al. do not disclose

where the at least two mutually interfering first equalizer sections, and the at least two correcting second equalizer sections include discrete time domain filters.

However Ballard et al. discloses in (Fig. 5) where the at least two mutually interfering first equalizer sections, and the at least two correcting second equalizer sections include discrete time domain filters (col. 5, lines 13-36). Examiner asserts that discrete time domain filters are IIR filters.

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Examiner Official Notice in combination with Wong et al. in view of Ballard et al. to incorporate where the at least two mutually interfering first equalizer sections, and the at least two correcting second equalizer sections include discrete time domain filters to provide for a more accurate and precisely repeatable equalizer performance and reduces equalizer design time for creating and limiting the equalization adjustment capacity of an equalizer maintained in DSP radio (Ballard et al., col. 2, lines 40-44).

(2) With regard to claim 6, claim 6 inherits all the limitations of claim 1. See rejection of claim 5.

Examiner asserts that continuous time domain filters are inherent to a discrete time domain filter because it receives a continuous data stream.

Therefore claim 6 does not constitute patentability.

***Allowable Subject Matter***

7. Claims 2, 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses an equalizer arrangement for generating an output signal by equalizing an input signal. Prior art references show similar methods but fail to teach: **“where the gain of a certain of the second equalizer sections is equal to the negative sum of the gains of the first equalizer sections that are immediately adjacent to the first equalizer section that is uniquely associated with the certain of the second equalizer sections, where the gains are taken at the center frequency of the first equalizer section that is uniquely associated with the certain of the second equalizer sections”, as in claim 2; “wherein the gain of the certain of the second equalizer sections is equal to the negative sum of the gains of the first equalizer sections that are adjacent to the first equalizer section that is uniquely associated with the certain of the second equalizer sections, wherein the gains are taken at the center frequency of the first equalizer section that is uniquely associated with the certain of the second equalizer sections”, as in claim 3; “where the at least two mutually interfering first equalizer sections are arranged in serial and upstream of the at least two correcting second equalizer sections, where the at least two correcting second equalizer sections are also arranged in serial”, as in claim 4.**
8. Claims 7 and 8 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses an equalizer arrangement for generating an output signal by equalizing an input signal. Prior art references show similar methods but fail to teach: **“the second correcting equalizer section includes a gain value that is indicative of the negative sum of the gains associated with the first and third equalizer sections at the center frequency of the second equalizer section”**, as in claim 7.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*Cicely Ware*

cqw  
February 19, 2006

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER